

WHAT IS CLAIMED IS:

1. A co-polymer composition comprising PVDF and an amorphous fluoropolymer.
2. The composition of claim 1, wherein the amorphous fluoropolymer is selected from the group consisting of (i) a cyclic fluorocarbon oxygen-containing polymer, (ii) a polyimide linear fluoropolymer, (iii) perfluorinated polyethers, or (iv) composites of any of (i)-(iii).
3. A method comprising
coating on a substrate a fluorine-containing polymer
and PVDF copolymer composition dissolved in a solvent, and
drying the solvent,
wherein a thin film of the fluorine-containing polymer
and PVDF copolymer is formed on the substrate.
4. The method of claim 3, wherein the fluorine-containing polymer is selected from the group consisting of (i) a cyclic fluorocarbon oxygen-containing polymer, (ii) a polyimide linear fluoropolymer, (iii) perfluorinated polyethers, or (iv) composites of any of (i)-(iii).

5. The method of claim 3, wherein the coating is performed by a technique selected from the group consisting of roll coating, dip coating, spin coating, water casting, and die coating.

6. The method of claim 3, wherein the thin film is a pellicle film.

7. The method of claim 3, wherein the substrate is a silicon wafer or a quartz glass.

8. The method of claim 3, further comprising peeling the thin film of the fluorine-containing polymer and PVDF copolymer from the substrate.

9. A pellicle comprising the composition of claim 1.

10. The pellicle of claim 9, wherein the pellicle comprises a thin membrane having optical transmission.

11. An article of manufacture comprising a film of the composition of claim 1.

12. The article of claim 11, wherein the article comprises a coating film is a sealing film for a semiconductor part, a buffer coating film for a semiconductor part, a passivation film for a semiconductor part, an interlaminar insulating film for a semiconductor part an anti-reflection film, a pellicle or an interlaminar insulating film for a multilayer circuit board.

13. A fluorine-containing composition, comprising:

a PVDF;

a polymer comprising a (i) a cyclic fluorocarbon oxygen-containing polymer, (ii) a polyimide linear fluoropolymer, (iii) perfluorinated polyethers, or (iv) composites of any of (i)-(iii); and

a solvent.

14. The fluorine-containing composition of claim 13, wherein the solvent is selected from the group consisting of a polyfluoroaromatic compound such as perfluorobenzene, pentafluorobenzene and 1,3-bis(trifluormethyl) benzene; a polyfluorotrialkylamine compounds such as perfluorotribuylamine and perfluortripropylamine; a polyflurorcycloalkane compound such as

perfluorocyclohexane; and a polyfluorocyclic ether compound.

15. The fluorine-containing composition of claim 13, further comprising coating a substrate with the fluorine-containing polymer composition and then removing the solvent to obtain a co-polymer film.

16. A co-polymer comprising

PVDF; and

a polymer selected from (i) a cyclic fluorocarbon oxygen-containing polymer, (ii) a polyimide linear fluoropolymer, (iii) perfluorinated polyethers, and (iv) composites of any of (i)-(iii).

17. The co-polymer of claim 16, wherein the co-polymer is in the form of a thin membrane.

18. The co-polymer of claim 16, wherein the co-polymer is in the form of a pellicle.

19. The co-polymer of claim 16, wherein the co-polymer is surface modified to comprise additional fluorine atoms.